REMARKS/ARGUMENTS

Claims 1, 5, 8, and 14-19 are pending. Claims 2-4, 6, 7, and 9-13 have been canceled without prejudice. Claims 1, 5, 14, and 15 have been amended. New claims 16-19 have been added. No new matter has been introduced. Applicants believe the claims comply with 35 U.S.C. § 112.

Claims 1, 5, 8, 14, and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ishii (US 6,781,786).

Applicants would like to thank Examiner Figueroa for the courteous telephone interview extended to Applicants' counsel, Chun-Pok Leung, on April 1, 2005. The proposed claim amendments were discussed and appeared to overcome the rejections. Applicants have provided additional comments regarding the proposed amendments, and respectfully request reconsideration of the present application in view of the above claim amendments and the following remarks.

Claims 1 and 16

Applicants respectfully submit that independent claim 1 as amended is novel and patentable over Ishii because, for instance, Ishii does not teach or suggest writing a predetermined unique pattern generated by a dedicated pattern generating circuit onto an area on a magnetic disk other than a user data area by the one or more magnetic heads; and measuring the head gap distance in each of the one or more magnetic heads by reading the predetermined unique pattern written onto the area.

In the exemplary embodiment of the present application, a dedicated pattern generating circuit 25 generates a unique pattern B to be written onto an area (e.g., inside the servo area) on a magnetic disk other than a user data area. A pattern A, which may be the Preamble pattern, is written before the pattern B. A pattern C, which is data different from the unique pattern, is written after the pattern B. See Fig. 2 and paragraph [0046]. A dedicated gap compensating circuit 24 is provided to change the timing based on a time gap that corresponds to the measured head gap distance. See paragraphs [0042]-[0043].

The recited dedicated pattern generating circuit 25 for generating a unique pattern B and a different pattern C is contrasted with a typical pattern generating circuit for generating a typical pattern, namely, the Preamble area, the Sync area, and the Data area in the typical pattern used for data writing as the patterns A, B, and C. See paragraph [0047]. The typical pattern belongs to the User Data Area situated between Servo and Servo. In contrast, the dedicated pattern as claimed is written in an area other than the User Data Area; in the specific embodiment shown, the area for writing the dedicated pattern corresponds to the Servo area. This is beneficial for gap measurement which is performed in the same area (e.g., the Servo area in the embodiment shown), as discussed below.

Ishii does not teach writing a predetermined unique pattern onto an area other than the user data area, and measuring the head gap distance by reading the predetermined unique pattern written onto the area. Instead, Ishii uses SM (sync mark) of the Servo Area for reference position (col. 9, lines 5-9), and uses SB (sync byte) for measuring object (col. 9, lines 32-41). See column 11, lines 1-34. As such, Ishii requires the use of both the Servo write/read clock and the User Data write/read clock to measure the Read/Write gap distance. Due to the clock difference between the two clocks, it is difficult to obtain the Read/Write gap distance accurately. As a result, it is necessary to compensate for the clock difference by another function or an additional method.

In the invention as recited in claim 1, the writing of the predetermined unique pattern and the reading of the predetermined unique pattern occur in the same area (e.g., inside the servo area) other than the user data area, where the read/write clock is the same from the inner track to the outer track. Consequently, the Read/Write gap distance can be measured accurately.

For at least the foregoing reasons, claim 1 and new claim 16 depending therefrom are novel and patentable over Ishii.

Claims 5, 8, and 17

Applicants respectfully assert that independent claim 5 as amended is novel and patentable over Ishii because, for instance, Ishii does not disclose or suggest, at a known first time interval after the read head detects a reference pattern on the magnetic disk, using the write head to write an identifiable predetermined pattern generated by a dedicated pattern generating circuit onto an area other than a user data area of the magnetic disk; and using the read head to detect the reference pattern and the predetermined pattern written onto the area.

As discussed above, Ishii uses SM (sync mark) of the Servo Area for reference position and uses SB (sync byte) for measuring object, and requires the use of both the Servo write/read clock and the User Data write/read clock to measure the Read/Write gap distance. Ishii is devoid of any suggestion of writing an identifiable predetermined pattern onto an area other than a user data area, and detecting the predetermined pattern written onto the area.

For at least the foregoing reasons, claim 5 and claims 8 and 17 depending therefrom are novel and patentable over Ishii.

Claims 14 and 18

Applicants respectfully submit that independent claim 14 as amended is novel and patentable over Ishii because, for instance, Ishii does not teach or suggest means for writing a predetermined unique pattern onto an area on a magnetic disk other than a user data area by the one or more magnetic heads; and measurement means for measuring the head gap distance by reading the predetermined unique pattern written onto the area with the magnetic head.

As discussed above, Ishii uses SM (sync mark) of the Servo Area for reference position and uses SB (sync byte) for measuring object, and requires the use of both the Servo write/read clock and the User Data write/read clock to measure the Read/Write gap distance. Nothing in Ishii suggests writing a predetermined unique pattern onto an area on a magnetic disk other than a user data area, and measuring the head gap distance by reading the predetermined unique pattern written onto the area.

For at least the foregoing reasons, claim 14 and new claim 18 depending therefrom are novel and patentable over Ishii.

Claims 15 and 19

Applicants respectfully contend that independent claim 15 as amended is novel and patentable over Ishii because, for instance, Ishii fails to disclose or suggest a pattern generating circuit configured to generate a unique pattern to be written onto an area on a magnetic disk other than a user data area by the write head, the unique pattern being used for measuring a head gap distance; and a gap measuring circuit configured to measure said head gap distance based on a signal acquired by reading said unique pattern written onto the area.

As discussed above, Ishii uses SM (sync mark) of the Servo Area for reference position and uses SB (sync byte) for measuring object, and requires the use of both the Servo write/read clock and the User Data write/read clock to measure the Read/Write gap distance. Ishii is devoid of any suggestion of writing a unique pattern onto an area other than a user data area, and measuring the head gap distance based on a signal acquired by reading the unique pattern written onto the area.

For at least the foregoing reasons, claim 15 and new claim 19 depending therefrom are novel and patentable over Ishii.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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